PROGRAM DESCRIPTION

HISTORY AND PURPOSES

The Railroad Commission of Texas was created in 1890 pursuant to an amendment to Article X, Section 2, of the Texas Constitution for the primary purpose of regulating the railroad industry. It was the first regulatory agency authorized for the State of Texas.

Today's Commission, pursuant to statute and its adopted rules and regulations, fulfills duties throughout a range of varied responsibilities. Its regulatory activities in the vital areas of energy, transportation, environmental protection, and public safety touch and concern all citizens of Texas in their day-to-day lives and are instrumental in ensuring the continued growth of the Texas economy.

The fulfillment of the statutory responsibilities delegated to the Commission is achieved under the direction of three Commissioners who are elected by popular vote of the citizenry of Texas to serve overlapping six-year terms. One Commissioner is chosen at each general election every two years.

Today, the Commission's regulatory span extends far beyond railroads and includes:

- *Express companies, trucks, and buses in intrastate service;
- *Gas utilities:
- *Butane and propane safety, including licensing of dealers and handlers;
- *Oil and gas pipelines in wholly intrastate business;
- *Conservation of oil and gas production, ascertaining the market demand and setting rates of production to prevent waste of hydrocarbons, protection of correlative rights and fresh water resources, and regulation of geothermal operations.

In the field of energy, the Commission exerts every effort to assure continuing energy resources as its actions affect the economic well-being of the entire nation.

OIL AND GAS DIVISION

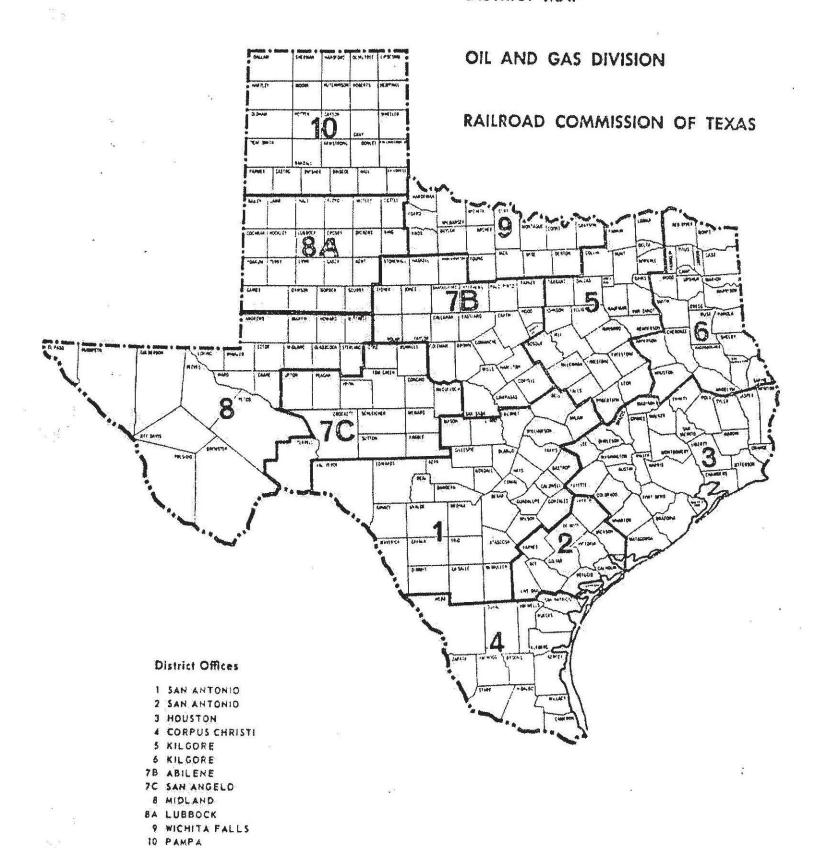
Largest of the Commission's regulatory and support arms, the Oil and Gas Division has these delegated responsibilities: to prevent the waste of oil, gas, and geothermal resources; to protect the environment; to ensure the safety of the general public; to retain and disseminate resource data to provide equitable production among operators; to require the conservation of energy in oil, gas, and geothermal activities; and to protect the energy consumer by ensuring that energy is not depleted by waste. These responsibilities are fulfilled by promulgating and enforcing statewide rules, by conducting hearings and issuing decisions as prudently and fairly as possible, by enforcing statutory provisions through on-site inspections and by regulating production through a system of proration and allocation.

The division maintains ten district offices across the state. A listing of these district offices follows this page. The staff of each consists of field enforcement and support personnel to conduct on-site regulation and surveillance of operations. The offices provide operators and the public with convenient locations to conduct business before the Commission on oil and gas matters and to obtain information they need.

The Commission's oil and gas regulatory role began in 1917, when pipelines were placed under its jurisdiction. Two years later, the Legislature enacted a statute requiring oil and gas conservation, forbidding waste, and giving the Commission jurisdiction. That same year the Commission adopted well-spacing rules, the first such regulations of any state.

The Commission's jurisdiction and responsibilities in petroleum regulation have increased steadily through the years; today its broad authority over oil and gas production derives from the Texas Natural Resources Code and from Chapters 26, 27, and 29 of the Texas Water Code. The Commission has been active in the control of underground injection activities for more than forty years. The first permit to inject gas into a reservoir producing oil or gas was issued by the Commission in 1928; the first permit to inject water into a producing reservoir was issued in 1938. The permits specified that injected fluids must enter no formations other than those authorized. These items emphasize the fact that the Railroad Commission has long been aware of the necessity and

DISTRICT MAP



RAILROAD COMMISSION DISTRICT OFFICES & DIRECTORS

DISTRICTS NO. 1 & 2

RICHARD R. IGAU, District Director, 812 Milam Bldg., San Antonio, Texas 78205. Telephone: (512) 227-1313. Atascosa, Bandera, Bastrop, Bee, Bell. Bexar. Blanco, Burnet, Caldwell, Calhoun, Comal, DeWitt, Dimmitt, Edwards, Frio, Gillespie, Goliad, Gonzales, Guadalupe, Hays, Jackson, Karnes, Kendall, Kerr. Kinsey, LaSalle, Lavaca, Live Oak, Llano, McMullen, Mason, Maverick, Medina, Milam, Real, Refugio, Travis, Uvalde, Val Verde, Victoria, Williamson, Wilson and Zavala.

DISTRICT NO. 3

ROBERT A. TAYLOR, District Director, 5200 Mitchelldale, Suite E-16, Houston, Texas 77018. Telephone: (713) 688-3461. Austin, Brazoria, Brazos, Burleson, Chambers, Colorado, Fayette, Fort Bend, Galveston, Grimes, Hardin, Harris, Jasper, Jefferson, Lee, Liberty, Madison, Matagorda, Montgomery, Newton, Orange, Polk, San Jacinto, Trinity, Tyler, Walker, Waller, Washington and Wharton.

DISTRICT NO. 4

THOMAS G. POST, District Director, P. O. Box 1821, Corpus Christi, Texas 78403, Telephone: (512) 882-2539, Aransas, Brooks, Cameron, Duval, Hidalgo, Jim Hogg, Jim Wells, Kenedy, Kleberg, Nueces, San Patricio, Starr, Webb, Willacy and Zapata.

DISTRICTS NO. 5 & 5

JIM H. MORROW, District Director, 619 Henderson Blvd., Kilgore, Texas 75662, Telephone: (214) 984-3026, Anderson, Angelina, Bosque, Bowie, Camp. Cass. Cherokee, Collin, Dallas, Delta, Ellis, Falls, Fannin, Franklin, Freestone, Gregg, Harrison, Henderson, Hill, Hopkins, Houston, Hunt, Johnson, Kaufman, Lamar, Leon, Limestone, McLennon, Marion, Morris, Nacogdoches, Navarro, Panola, Rains, Red River, Robertson, Rockwall, Rusk, Sabine, San Augustine, Shelby, Smith, Tarrant, Titus, Upshur, Van Zandt and Wood.

DISTRICT NO. 7B

THOMAS H. BORUFF, District Director, P. O. Box 1681, Abilene, Texas 79604. Telephone: (915) 677-31 Brown, Callahan, Coleman, Comanche, Coryell, Eastland, Erath, Fisher, Hamilton, Haskell, Hood, Jones, Lampasas, Mills, Nolan, Palo Pinto, Parker, San Saba, Shackelford, Somervell, Stephens, Stonewall, Taylor and Throckmorton.

DISTRICT NO. 7C

ALVIN J. RASCHKE. District Director, P. O. Box 2141, San Angelo, Texas 76902. Telephone: (915) 653-6776. Coke, Concho, Crockett, Irion. Kimble, McCullough, Menard. Reagan. Runnels, Schleicher, Sutton, Terrell. Tom Green and Upton.

DISTRICT NO. 8

ARCHIE P. FARR, District Director, P. O. Box 2110, Midland, Texas 79702, Telephone: (915) 684-5581. Andrews, Brewster, Crane, Culberson, Ector, El Paso, Glasscock, Howard, Hudspeth, Jeff Davis, Loving, Martin, Midland, Mitchell, Pecos, Presidio, Reeves, Sterling, Ward and Winkler.

DISTRICT NO. BA

WILL EDD PARKER, District Director, P. O. Box 2546, Lubbock, Texas 79408. Telephone: (806) 792-4797. Bailey, Borden, Cochran, Cottle, Crosby, Dawson, Dickens, Floyd, Gaines, Garza, Hale, Hockley, Kent, King, Lamb, Lubbock, Lynn, Motley, Scurry, Terry and Yoakum.

DISTRICT NO. 9

WINSTON D. TYLER, District Director, 118 Fre-Mar Valley, Wichita Falls, Texas 76305, Telephone: (817) 723-2153, Archer, Baylor, Clay, Cooke, Denton, Foard, Grayson, Hardeman, Jack, Knox, Montague, Wichita, Wilbarger, Wise and Young.

DISTRICT NO. 10

JOHN B. ROGERS, District Director, P. O. Box 941, Pampa, Texas 79065. Telephone: (800) 665-1653. Armstrong, Briscoe, Carson, Castro, Childress, Collingsworth, Dallam, Deaf Smith, Donley, Gray, Hall Hansford, Harley, Hemphill, Hutchinson, Lipscomb, Moore, Ochiltree, Oldham, Parmer, Potter, Rand Roberts, Sherman, Swisher and Wheeler.

desirability of protecting underground sources of fresh water, and has long exercised a role of leadership and responsibility in regulating underground injection in Texas. Today, no wells are regulated solely by rule, and all injection and disposal wells must be authorized by a permit from the Commission.

On January 2, 1980, the Underground Injection Control (UIC) Section of the Oil and Gas Division was created to administer a program consistent with state and federal law, including oversight of the injection, disposal, and hydrocarbon storage well permits already issued, process and issue new permit applications, and coordinate with EPA and other federal and state agencies in a concerted program to protect fresh water in Texas.

The State UIC Program in Texas is jointly enforced by two agencies, the Department of Water Resources, which has authority over industrial waste disposal wells, and the Railroad Commission. The Commission has jurisdiction over Class II wells injecting "oil and gas waste," a term that is defined in Chapter 27 of the Texas Water Code to include the disposal of salt water and other produced fluids, disposal associated with the underground storage of hydrocarbons, and injection arising out of or incidental to the operation of gasoline plants, natural gas processing plants, and pressure maintenance or repressuring plants. The Commission also has authority over Class II wells used for the enhanced recovery of oil and gas (91.101, Natural Resources Code) and underground hydrocarbon storage wells (91.201 et.seq, Natural Resources Code).

All applications for Class II wells come to the UIC section where they are evaluated and processed. If hearings are requested or required, the UIC section asks that a hearing be held after the Commission provides notice to all interested persons and local governments. After hearing, the examiner recommends final action by the Commissioners who decide if the permit should be issued. If no protests or complaints are received on an application, the Director of Underground Injection Control may administratively approve the application.

In addition to routine permitting and evaluation procedures, the UIC staff is active in the periodic revision of the text of the Commission's Statewide Rules for oil, gas, and geothermal resource operations in Texas to ensure compliance with state and federal laws. These rules are discussed below in the appropriate context of the program description.

REGULATORY AND PERMITTING PROCEDURES FOR CLASS II WELLS

Conditions Generally Applicable.

Under Rules 3.9, 3.46, and 3.71* of Title 16 of the Texas Administrative Code, operators of injection and disposal wells associated with oil and gas exploration, drilling, production, transportation, or underground storage must obtain a permit from the Commission. Section 27.031* also requires permits for all disposal wells. Thus all Class II wells in Texas must be approved by the Commission before injection operations can legally begin. Pursuant to Rules 3.9, 3.46, 3.71, and the applicable application forms, such permits will only be approved if the applicant satisfies his burden of showing that all reasonable efforts have been made to assure the protection of freshwater.

This requirement that all such wells be permitted by the Railroad Commission applies to injection activities by federal agencies and by any other person on property owned or leased by the United States. Section 1447 of the Safe Drinking Water Act specifically preserves any state authority over injection activities by such agencies or persons. The Commission presently permits such persons and has sufficient authority to do so [3.9, 3.46, 3.71, and Code Construction Act, TEX. REV. CIV. STAT. ANN. art. 5429b-2].

An applicant for a Class II well is required to certify that he is authorized to submit the application on behalf of the operator and that the information provided is true and correct, under penalties prescribed in §91.143 of the Texas Natural Resources Code. Commission forms also require the applicant to state his title and give the operator's name, address, and operator number. The operator number is prescribed after the Organization Report (Form P-5) is filed under 16 TAC 3.1 and identifies an organization in Commission records. The Organization Report is the initial and principal instrument required by organizations

^{*} Applicable statutes, rules, and forms are attached and include Chapters 26, 27, and 29 of the Texas Water Code; Chapters 81, 85, 86, 87, 88, 89, 91, and 141 of the Texas Natural Resources Code; Rules 3.8, 3.9, 3.13, 3.14, 3.46, and 3.71 of Title 16 of the Texas Administrative Code; and Forms W-14, H-1, H-1A, and H-4. Reference to these statutes, rules, and forms in this text will be by number only.

doing business before the Commission. It requires the operator to specify the nature of his business and the names and addresses of the corporate officers and partners, as well as other pertinent information.

Once a permit is granted, the operator is bound by all applicable Commission rules and permit conditions by virtue of accepting the right to operate pursuant to the conditional permit. Many of the conditions of the permits issued are also contained in the rules and are independently effective with regard to the operator regardless of what is in the permit. Further, the statutes provide that the Commission may include other permit conditions to protect fresh water from pollution [27.051, 89.001, and 91.204].

The statutes and case law in Texas have established that violations of the statutes and rules of the state provide a basis for mandatory injunctive relief to achieve compliance. Thus where the permitted operator is shown to be polluting fresh water in violation of §§3.8(a), 3.9, 3.46(a), or 3.71, there would be a basis to abate or correct the pollution, an action enforceable through the equity powers of the court.

Class II permits may be modified, revoked and reissued, or terminated for just cause [3.9(5), 3.46(d), 3.71(c)]. There are no provisions in the statutes or rules governing Class II wells providing for a stay of any permit condition or rule by the courts pending a request for amendment.

The issuance of a Class II permit does not convey property rights. Any permit provision which attempted to convey a property right would violate the Texas Constitution and would be invalid (TEX. CONST. art. V, §8). Sections 27.051 and 27.104 also prevent the issuance of a disposal well permit affecting any existing right or civil liability.

The right to inspect and enter property where injection occurs is specified in the statutes governing each type of Class II well and is sufficient to allow Commission access to monitor compliance [27.071, 85.061, 88.011(2) and (6), 88.091, 88.092, and 91.205]. Further, these statutes specify that the Commission has the right to examine and copy records pertinent to injection well activities. Finally, §3.2 gives the Commission or its agents the right to enter property to monitor compliance.

Monitoring and reporting.

The operator of each disposal or injection well is required by the rules and by each new permit to monitor the injection pressure on a monthly basis and to report the results annually on the prescribed form [3.9(10), 3.46(i)]. The operator of an underground hydrocarbon storage facility must monitor the volumes injected on a monthly basis and report the results annually on the prescribed form [3.71(h)]. For Class II wells, except hydrocarbon storage facilities, any downhole problem must be reported to the appropriate district office within 24 hours and confirmed in writing within five working days [3.9(10) and 3.46(i)]. Operators of hydrocarbon storage facilities must report mechanical problems to the district office immediately and confirm this report in writing within five days [3.71(h)]. An automatic data processing system was developed by the ADP Division for the monitoring and annual report. (See Appendix).

Transfer and modification of permit.

A Class II permit may only be transferred after notice to the Commission. The transfer will occur automatically after fifteen days unless the Director notifies the operator of problems with the transfer. [3.9(5), 3.46(d), 3.71(f)]. A Class II permit may be terminated, revoked, or modified for just cause such as a substantial change in well operation, pollution of fresh water, substantial violations of the permit conditions or rules, misrepresentation, or other evidence indicating that injected fluids are escaping from the authorized zone [3.9(5), 3.46(d), 3.71(e)]. Notice and opportunity for hearing are provided in the same manner as in the initial permit process.

Project permits.

Area or project permits may be granted for fluid injection operations for the enhanced recovery of oil or gas since these wells are often operated as a unit. Project permits may also be issued for underground hydrocarbon storage facility wells and associated salt water disposal wells (3.9, 3.46, and 3.71). Project permits provide that new wells drilled or converted after the project was originally approved, must be permitted by the Commission.

Emergency orders.

Emergency orders are specifically authorized by §85.206 of the Texas Natural Resources Code. Where an emergency exists, the permit may be issued on an expedited basis if, in the Director's judgement, the operation is not likely to affect other parties or cause pollution of fresh water. A permit so issued will contain a provision specifying that the authorization will end if the Commission receives a letter of protest within the authorized period and in no event later than 15 days from issuance, and shall state that a hearing will be called on the continued use of the permit.

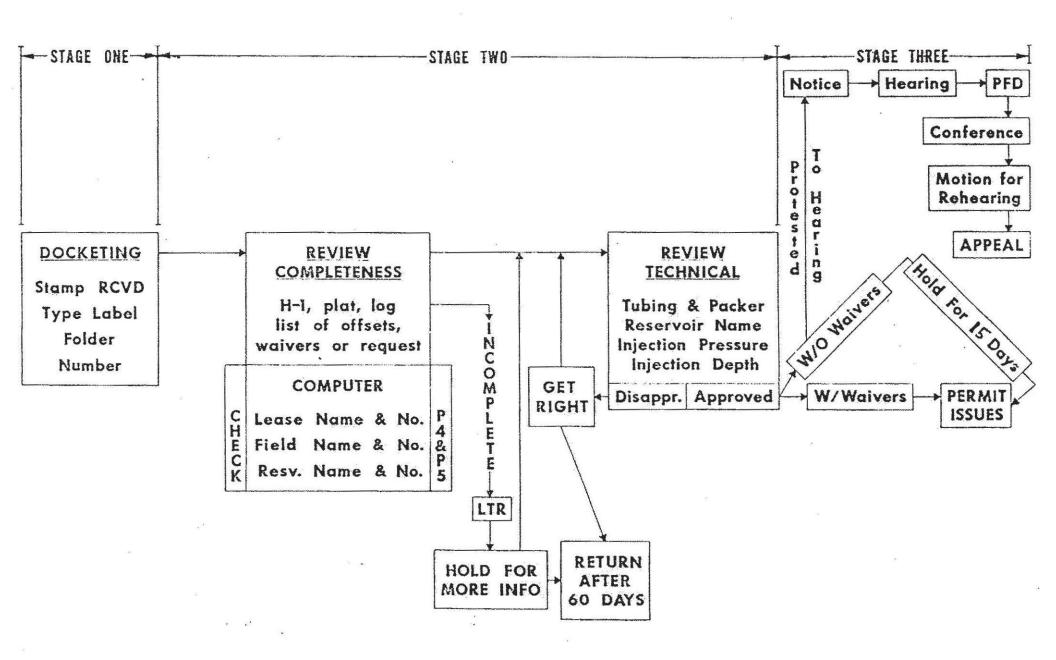
Modification of permits.

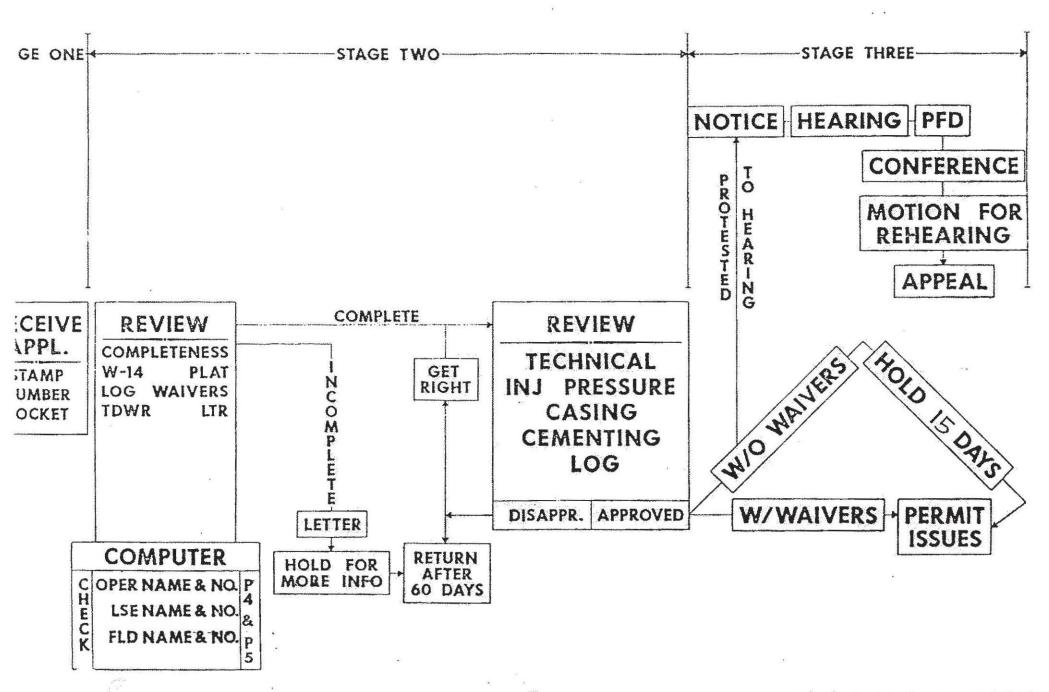
The legal basis for permit modification for Class II wells was discussed above. Administratively, the factual information supporting modification will usually be collected by the district offices. If an inspection by the district office shows that a permit should be modified, revoked, or suspended, the District Director will recommend to the Director of Field Operations in Austin that appropriate action be taken. The Director of Field Operations will in turn notify the Director of UIC that a permit modification, revocation, or suspension may be appropriate and will forward a copy of the district's recommendation to the UIC section.

The Director of UIC, after determining an appropriate action, then prepares a motion to modify, revoke, or suspend a permit and gives notice to the permittee and all interested persons indicated in the permit file. Notice of the proposed modification, revocation, or suspension may be published in a newspaper in the area affected if the Director decides that there is significant public interest in the matter. If the permittee and all interested parties agree on the proposal, the Director will then modify, revoke, or suspend the permit. If a protest is filed within 15 days of the notice, the proposed action will be set for hearing before one of the Commission's hearing examiners, who will recommend final action by the Commission.

A permit action by the Commission may be appealed by the operator or other affected person to the District Court in Travis County, Texas, pursuant to §19 of the Administrative Procedure and Texas Register Act, TEX. REV. CIV. STAT. ANN. art. 6252-13a, and §85.241 et seq. of the

RAILROAD COMMI N OF TEXAS FLOWCHART: H-I FLUID INJECTION APPLICATION





Natural Resources Code. The appeal is on the basis of the Commission's record and the statute provides for substantial evidence review. The court may remand, reverse, or affirm in whole or in part, if the administrative actions are outside the law, not supported by substantial evidence, or are arbitrary and capricious.

TECHNICAL CRITERIA.

Geological requirement.

The geological formation or authorized strata must be isolated from overlying or underlying strata that contain oil, gas, geothermal, water or other resources by sufficient thickness of relatively impermeable strata. A sufficient thickness of relatively impermeable strata is generally considered to consist of an accumulative total of 250 feet of clay or shale. Variances in the total thickness required to effectively separate are considered on the basis of continuity of strata, thickness of individual stratum and the presence of relatively impermeable strata other than clay or shale. No Class II well will be permitted where faults, fractures, structure or other geologic factors indicate that isolation of the authorized zone is jeopardized. The operator must submit adequate geological information to show compliance with this requirement. [27.033, 27.051, 3.9(1), 3.9(2), Form W-14, 91.101, 3.8(a), 3.46(a), Form H-1, 91.203, Form H-4, and 3.71(c)].

Casing and cementing.

Class II wells must be cased and cemented in accordance with §3.13 to prevent the movement of fluids into sources of fresh water. Section 3.13 requires that surface casing be set and cemented so as to protect fresh water strata, as defined by the Texas Department of Water Resources. Cementing is required to be circulated to the surface by the pump and plug method and the specifications for cement quality and casing integrity set out in the rule must be met.

All Class II wells must demonstrate mechanical integrity in accordance with §§3.9, 3.46, and 3.71. This must be before injection begins for new wells and once every five years thereafter for both existing wells and new wells. The methods used to demonstrate mechanical integrity will be discussed below.

Tubing and packer requirements.

On all newly drilled or converted Class II wells, injection must be through tubing set on a packer unless an exception is granted by the Director for good cause. [3.9(8)] and [3.46(g)]. The rules require all existing disposal wells to be equipped with tubing and packer. [3.9(8)].

Operating requirements.

Maximum injection pressure limitations will be required as a condition of each Class II permit issued and have been part of the Commission's permitting program for many years. Pressure limitations are established which provide adequate assurance that the injection will not initiate new fractures or propagate existing fractures in the confining zones [27.051, 3.9(1), W-14, 91.101, 3.46(a), 91.203, 91.204, and 3.71(a)].

Operators of oil or gas waste disposal and injection wells must monitor the injection pressure and volume on a monthly basis and report the information annually on the prescribed form, Form H-10. [3.9(10) and 3.46(i)]. Injection volumes and pressures must be so monitored and reported annually for underground hydrocarbon storage wells [3.71(h)]. A significant pressure change indicating the presence of leaks in all wells must be reported to the district office within 24 hours and confirmed in writing within five working days [3.9(10), 3.46(k), and 3.71(h)]. Given the data from the pressure-test of the long string casing and from the annulus pressure monitoring (discussed below), the Commission is able to determine if there is tubing or packer failure, casing leaks, or evidence of other operational problems and can take appropriate remedial action, including modifying or cancelling the permit.

Plugging and abandonment.

All Class II wells are required to be plugged upon abandonment in accordance with §3.14. A plugging record must be filed with the district office, which must also be notified five days before the plugging operation is to begin, to allow Commission personnel to witness the plugging. Plugging must begin within 90 days after injection operations have ended.

Plugging must take place in accordance with the specific requirements of §3.14 so as to protect usable quality water. These

requirements are as detailed as possible, while still allowing some discretion to meet problems specific to the well.

Pursuant to §3.14, the Director may grant extensions of time to plug, but only if no pollution will occur and if (1) the operator has presented a viable plan for utilizing the well within a reasonable time; or (2) a performance bond or other security is posted to ensure the closure of the well.

Performance bonds or other financial assurance are not routinely posted for every Class II well. Instead, $\S89.001$ et seq. of the Texas Natural Resources Code provides that if the operator does not properly plug the well, "non-operators" such as working interest owners may be held liable for the full cost of plugging the well. If the non-operator fails to plug the well, the mineral interest landowner may be held fully responsible. [27.073, 89.001 et seq., 91.012, and 91.101].

In addition, the Railroad Commission may obtain civil penalties and injunctive relief as discussed below for failure to plug the well. Finally, if the operator, non-operator, or landowner have no funds available, the Railroad Commission may plug the well. A special state fund is set aside for this purpose in the amount of \$330,465 for 1982 and \$330,489 for 1983. Chapter 89 of the Natural Resources Code also allows individual companies to contribute to the well plugging fund without admitting liability. Approximately 50 wells were plugged in 1981 at a total cost of \$203,470.21.

Area of review.

The rules require that Class II disposal and injection well operators must examine the data of record for wells that penetrate the proposed injection zone within a ½ mile radius of the proposed well to determine if all abandoned wells have been plugged in a manner that will prevent the movement of fluids into strata other than the authorized zone. Applicants for new permits must submit a map showing the location of all wells of public record within ½ mile as part of their permit application. For those wells that penetrate the top of the injection zone, the applicant must attach a tabulation of the wells showing the dates the wells were drilled and the present status of the wells. Alternatively, the operator may substitute the zone of endangering influence concept in lieu of the fixed radius. In cases where the

Director has demonstrated knowledge of geologic, hydrologic, or engineering conditions specific to a given operation which ensure that wells within the zone of endangering influence or area of review will not serve as conduits for migration of fluids into fresh water resources, a permit may be issued without requiring corrective action on wells within the zone of endangering influence or area of review. Under this situation, the Director may waive certain data submission requirements. No permit will be issued, however, where the information submitted indicates that fresh water sources will be endangered unless permit conditions require appropriate corrective action in the area. [3.9, 3.46, and 3.71].

Mechanical integrity.

The rules require that the casing, tubing, and packer of all Class II wells be pressure-tested at least once every five years to determine if leaks exist in the casing, tubing, or packer. The appropriate district office must be notified before the pressure test to allow a Commission representative to witness the test. The operator must file a record of such test with the district office. As an alternative to this pressure-testing, the Director may authorize the operator to monitor the casing-tubing annulus pressure and report the results annually to demonstrate that no additional pressure-testing is needed. Also, an exception to testing may be granted upon demonstration to the Director of a viable alternative monitoring program such as injection rate-injection pressure relationship [3.9(11) and 3.46(j)]. Mechanical integrity testing must also be performed pursuant to §3.71.

Exceptions.

Tubing and packer must be set and pressure valves must be provided on disposal and injection wells in accordance with $\S 3.9(8)$ and $\S 3.46(g)$. Section 3.9(11) and 3.46(j) provide that wells must be pressure tested at least once every five years. The rules provide that the Director may grant exceptions to these provisions provided that fresh water will not be endangered.

Section 3.13 requires that surface casing be cemented by the pump and plug method so as to fill the annular space to the surface. The surface casing is to be set to the depth recommended by the Texas

Department of Water Resources to protect fresh water strata or by applicable field rules establishing the depth of fresh water. The Commission may authorize the use of multi-stage completion provided the cementing company's representative files an affidavit (Form W-15) showing where the stage cement tool was set and the number of sacks of cement used in the operation. Multi-stage cementing is not normally authorized in lieu of surface casing as a means to protect fresh water strata for wells drilled expressly as Class II wells.

Section 3.13 requires that the intermediate casing be pressure-tested at .2 lbs./foot of depth and that it be cemented at least 600 feet above the shoe. Production string casing must be cemented and tended in a similar manner.

These requirements for casing and cementing are designed as minimum requirements for producing, and injection and disposal wells in Texas. When a well is converted to a disposal or injection well, however, an additional permit is required. Under §§3.9 and 3.46, the Director of UIC may grant permits for the use of the well as a Class II well if the operator shows that fresh water will be protected. Since fresh water must be protected and since the wells will be used for disposal and injection purposes, the Director may require more stringent completions than the minimum standards outlined in §3.13. For wells which are already completed, the Director may deny a permit application or make the permit conditional upon recompletion or monitoring to ensure the protection of fresh water. Similar considerations will also apply to the cementing of the well and other completion requirements.

Similar provisions will be placed in underground hydrocarbon storage facility permits issued pursuant to §3.71.

SURVEILLANCE AND ENFORCEMENT

Commission inspectors have the authority to enter, inspect, examine records, and test any oil and gas property, injection or disposal well, or hydrocarbon storage facility in order to verify compliance with Commission rules and regulations [27.071, 27.072, 85.061, 88.011, 88.091, 88.092, 91.205, 91.206, 16 TAC 3.2]. The Commission utilizes its field inspectors to conduct routine on-site inspections of Class II wells and facilities and nearby producing wells. Commission inspectors also

monitor all necessary tests under agency regulations. These tests include the initial pressure tests and subsequent five-year verifications and plugging. When violations are discovered, the field inspector and the district director are responsible for pursuing appropriate corrective action.

Initiation of enforcement activity may stem from an inspector's observation; from the operator's monitoring and reporting activities; from reports through another state agency; or from complaints of citizens or other operators in the area. Generally, repeat violators are treated with a higher priority.

The procedure for investigating complaints is for the inspector to interview the complainant and file a written report with the district office, the Austin office, and with the complainant. The inspector next contacts the operator and conducts an on-site investigation of the injection program. The inspector has the additional authority to check injection pressures and rates of the well in question to examine mechanical integrity. If pollution is occurring or appears imminent, the applicable permit provisions and rules provide that the Commission may shut in the well [3.9, 3.46, 3.71]. If the violation is minor and does not directly cause pollution (such as pressure or volume overages), the inspector will instruct the operator to correct the violation within a specified period. After his investigation, the inspector will complete his reports, giving the results of his inquiry and his recommendation for resolution.

If the violation is not corrected as a result of these field procedures, the district director may request a show-cause hearing, which will be set on the Commission docket, with publication in the <u>Texas Register</u> and notice to all interested parties [Rule 1.133 of Commission Rules of Practice and Procedure]. Based upon the testimony and evidence brought forth at the hearing, the examiner will recommend final action by the Commission calling for an end to the violation within a specified time. The Commission's order may modify, revoke, or suspend the operator's permit, order pipeline severance, require the well to be plugged, maintain the shut-in order, or impose other corrective measures as necessary. If the violation is not rectified as the Commission orders, the operator may be fined at a second hearing for contempt at \$500 daily and may be subject to up to six months imprisonment for each

contempt citation. Historically, pipeline severance has also proven to be an effective deterrent, where the Commission orders that no taker, transporter, or purchaser of oil or gas shall transport or purchase oil or gas from the wells of operators held in violation.

The Commission may further request that the Attorney General of Texas seek civil penalties or other injunction to remedy the violation. Under Chapter 27, Texas Water Code, up to \$5,000 in civil penalties may be collected in this manner for each violation or day of violation where an oil or gas disposal well is involved. Up to \$5,000 in criminal violations may also be collected. The Commission has numerous enforcement powers specifying additional injunctive relief, placing the corporation in receivership, plugging of wells, and other civil and criminal penalties (Chap. 26, 81.053, 81.054, 85.161, 85.291, 89.001, 85.353, and 85.381). Well plugging litigation is routinely handled through the State Attorney General's office. Currently, over 120 cases are actively being prosecuted.

Immediately following the program description are two memorandums which generally summarize the Commission's procedures concerning well-plugging. Also attached are those status sheets mentioned in the memorandum which enable each individual case to be easily documented.

Violations concerning enhanced recovery wells may also subject the operator to civil and criminal penalties of \$1,000 under Chapter 26, Texas Water Code, contempt remedies under §81.053, injunctive relief through the Attorney General's office under §81.054, injunctive relief or civil penalty under §85.351 and 85.381, pipeline severance under §85.161, or plugging orders under §89.001.

Violations involving salt water disposal wells associated with underground hydrocarbon storage facilities are subject to the remedies specified in Chapter 27 of the Texas Water Code in the same manner as for other oil and gas waste disposal wells. Violations involving the underground hydrocarbon storage facility as a whole are subject to \$1,000 per day and per act in civil penalties and injunctive relief achieved by suit filed by the Attorney General under §§91.208 and 91.209. Pipeline severance may also be invoked under 91.207. Finally, the remedies specified in Title 3 of the Natural Resources Code above are also available for violation of Subchapter G, Chapter 91, Natural Resources Code.

Following this page is a summary of compliance monitoring activities occurring from September, 1980 through August, 1981. In addition, the following number of pipeline severance actions occurred during the last year:

January86	July45				
February70	August78				
March88	September54				
April48	October57				
May50	November49				
June76	December(figures				
	are not yet available)				

STATEWIDE INVENTORY OF CLASS II WELLS

As a required element of the State UIC Program, the inventory of Class II wells in Texas includes those types of injection practices under Commission jurisdiction. These are salt water disposal wells, secondary recovery injection wells, and underground hydrocarbon storage wells. To implement the inventory, the Director of UIC, his staff, and the ADP Division staff developed a form, "Disposal Well/Injection Well Inventory" and an automated data processing system (See Appendix) to expedite the editing and review of data collected. In early 1981, the inventory began with a statewide mailout that included a computerized listing of the Class II wells of record. Upon receipt of the inventory form describing their particular injection program, operators were required to verify, correct, or update the existing information.

Operators were asked to complete and return the inventory form and questionnaire with 90 days. Those operators who failed to do so were identified by a computer listing, and in turn received a second request to complete the form. If these operators again failed to return the form, a listing was furnished to the appropriate Commission District Office.

As of September, 1981, 38,283 inventory forms had been received in the Austin office. These were edited and added to the on-line UIC file of Class II wells.

SEPTEMBER 1980 THRU AUGUST 1981 ACTIVITY SUMMARY

PAGE 11

DISTRICT ALL

YTIVITOA BOCO	ACTIVITY NAME	NUMBER DOCURING	NUMBER WITNESSED	NUMBER INSPECTIONS	HOURS		HR/PER INSPECTION	TOTAL HRS
A	WELL COMPLETIONS	20,444	1,442	2,054	4,611	3.2	2.2	1.90
3	WELLS PLUGGED	9,882	4,649	7,565	26,563	5.7	3.5	10.99
CA	PRODUCTION TESTING - OIL		8 - 293	16,421	7,013	. 8	.4	2.90
68	PRODUCTION TESTING - GAS		1,192	1,411	1,539	1.3	1.1	.63
CC	PRUD. TESTING - COMMUNICATION		917	987	626	.7	.6	.25
co	PRODUCTION TESTING - MINIMUM		105	263	1,118	10.6	4.3	.46
Ō	DEVIATIONAL SURVEYS	71	138	138	317	2.3	2.3	.13
Ε	POLLUTION INSPECTIONS		26,971	28,033	21,691	.8	. 8	8.97
F.	DRILLING RIG INSPECTIONS		3,524	3,573	4.571	1.3	1.3	1.89
S	LEASE INSPECTIONS		65,817	67,517	42,288	.6	.6	17.49
Н	TANK CLEANING	453	460	505	1,066	2.3	2.1	.44
I	CFFICE				48,255		*	19.96
Jā	BL CWOUTS	93	99	517	2,073	20.9	4.0	• d5
J3	FIRES	51	50	52	125	2.5	2.4	.05
ĸ	DIL SPILLS	1,997	1,602	2,871	5,211	3.3	1.8	2.15
L	COMPLAINTS	2:686	2, 723	5,141	11,507	4.2	2.2	4.76
H	OTHER	9,473	9,518	10,317	44,459	4.7	4.3	18.39
×	SUPERVISION				18,626			7.70
	TOTALS						A	
	8.	45,079	127,500	147,365	241,659			

TEXAS DEPARTMENT OF WATER RESOURCES

1700 N. Congress Avenue Austin, Texas

Abstra. Texas

Harvey Davis Executive Director

August 19, 1981

REC OF TEXAS

AUG 18 1981

O.G. - U.I.C. AUSTUI, TEMAS

TEXAS WATER COMMISSION Felix McDonald, Giaseman Dorsey B. Hardeman Joe R. Carroll

Mr. Clayton W. Williams, Jr. c/o Scott, Douglas & Keeton Twelfth Floor, City Bank Building Austin, Texas 78701

Attention: Ms. Carroll Martin

Dear Mr. Williams:

TEXAS WATER DEVELOPMENT BOARD

Louis A. Beecherl, Jr., Chairman

John H. Garrett, Vice Chairman

George W. McCleskey Glen E. Ronev

Lonnie A. "Bo" Pilgrim

W. O. Bankston

RE: Application to Dispose of Salt Water by Injection (RRC Form W-14), CLAYTON W. WILLIAMS, JR., Salt Water Well No. 1, Orville Perry Survey, A-45, Burleson County (D-11)

This is in response to your application for a Railroad Commission permit to dispose of produced salt water into strata in the depth interval from 4,950 to 5,750 feet. Our review of the information contained in the application and available hydrogeologic data indicate that the proposed injection will not endanger strata containing usable-quality ground water.

Ground water considered to be of usable quality occurs to a depth of approximately 2,100 feet in the area of this well.

If there are any questions, please call us at 512/475-6176.

Sincerely,

Bruce E. Fink

Protection Services Unit

cc: RRC, Austin - w/copy of W-14

To update and maintain this inventory, the UIC section established procedures to include Class II wells which were drilled, completed, or converted after the close of the inventory.

Finally, automated data collected in the Commission's inventory of Class II wells will be made available in a format recognized by the Data Systems Branch of EPA, Region VI. The inventory is expected to be completed in early 1982.

FRESH WATER AQUIFER DESIGNATION

General

The Commission regulates Class II injection wells so as to protect fresh water in Texas. Fresh water is defined in Chapter 27 of the Texas Water Code as "water having bacteriological, physical, and chemical properties which make it suitable and feasible for beneficial use for any lawful purpose." This definition is broader than that of "underground sources of drinking water" used by EPA. Under the statutes and rules administered by the Commission, fresh water must be protected when a permit is issued for an oil and gas waste disposal or injection well, or hydrocarbon storage facility, unless the injection is into a fresh-water formation productive of oil, gas, or geothermal resources. In all cases the applicant must obtain a letter from the Texas Department of Water Resources, Austin, Texas, stating the depth of usable quality water in the area that must be protected.

Disposal Wells, Rule .009

No permit will be issued until a letter from the Texas Department of Water Resources (TDWR) is received stating that the well will not endanger usable quality water strata and that the formation or stratum used for disposal does not contain fresh water. To obtain the letter, the applicant is required to submit a copy of the application form (Form W-14), a well location plat, and a representative electrical log. In addition to these data, the TDWR interprets electrical logs of nearby wells in its log lobrary for correlation and comparison, checks the authorized disposal intervals in nearby disposal wells, and reviews published and/or file data on the occurrence and quality of usable-quality water. A well is considered to endanger fresh

water strata if the proposed disposal zone contains water with less than 10,000 ppm total dissolved solids or if the proposed disposal zone is not adequately separated from fresh water strata. Usable quality water strata, as interpreted by the Texas Department of Water Resources, contains less than 3,000 ppm total dissolved solids. Usually, the geological requirement of an accumulative total of 250 feet of relatively impermeable strata will separate strata that contains less than 3,000 ppm total dissolved solids water from strata that contains more than 10,000 ppm total dissolved solids water.

A permit application received by UIC is reviewed for administrative and technical completeness. The technical review includes determination of whether or not the well is adequately cased and cemented to isolate the disposal zone, and thus verify the protection of fresh water strata, as well as reviewed to determine if the proposed disposal zone is geologically isolated from these strata.

Fluid Injection Wells, Rule .046

Applications for permits to inject into zones that are productive of oil, gas, or geothermal resources are not reviewed by the TDWR. However, applicants are required to submit with their application a copy of a TDWR letter stating the depth to which usable-quality water must be protected. The letter must be for a well in the project area.

A permit application received by UIC is reviewed to determine whether or not the well is adequately cased and cemented to isolate the injection zone and to protect fresh water resources. The electrical log of the well or nearby well is reviewed to verify the base of fresh water strata. Additionally, groundwater reports published by the TDWR may be used as references.

Hydrocarbon Storage, Rule .071

Underground hydrocarbon storage under Rule .071 always takes place in either cavities leached out of salt domes or bedded salt formations.

AQUIFER EXEMPTION

The review and approval process for Class II wells assures aguifer

protection on a case by case basis. Aquifer exemption will be considered as part of the review process, when applicable, in lieu of listing aquifers or portions of aquifers for exemption.

The reasons for reviewing on a case by case basis are the occurrences of numerous hydrocarbon-producing reservoirs that contain or may contain water with less than 10,000 ppm total dissolved solids and the existence of extensive, undelineated aquifers that contain water with less than 10,000 ppm total dissolved solids.

The case by case aquifer exemption consideration will be conducted as a part of the technical review. The technical review process is discussed elsewhere in the program description.

The review procedure for injection wells will authorize injection in the vertical and horizontal portion of a geologic formation that is hydrocarbon productive and contains fresh water. This procedure allows for the maximum recovery of hydrocarbons. The limit of the productive formation is determined by the perimeter wells that have shown producing potential. An injection well may be permitted within the productive formation and in the equivalent interval not further than one-half mile outside the perimeter of productive or potentially productive wells.

The case by case review process may authorize completion of salt water disposal wells in aquifers that contain more than 3,000 ppm but less than 10,000 ppm total dissolved solids under conditions where the aquifer cannot now or will not in the future serve as a source of drinking water. These circumstances will exist when the depth and location make recovery of water for drinking water purposes economically impractical. Economics can prohibit the producing and treating of water from an aquifer in comparison to developing alternative, abundant water sources in an area. Even when costs of producing drinking water are prohibitive, aquifer exemption would not be considered if alternative disposal zones are economically and technically practical.

PUBLIC PARTICIPATION

Commission rules require that notice of permit applications be given so that the public and other persons affected will have an opportunity to participate in the permit-issuance process. Notice of the application must be published in a newspaper of general circulation for the county in which the well will be located at least 15 days before the Commission considers the application. Notice by mail in a form approved by the Director must also be given to offset operators, surface owners, and to the county or city in which the well is located.

If the Commission receives a complaint or protest during the 15 day period after publication and before consideration of the application from any affected person or local government, the permit will not be issued administratively and a hearing will be held after the Commission provides notice of hearing to all persons expressing any interest in the application. In addition, any interested person may contact the Commission to request a hearing. If there is a significant degree of public interest in the application, the Director may call for a public hearing after fifteen days notice to all interested persons described above. Any interested person may contact the Commission regardless of whether or not he is affected by the permitting action.

At the hearing, any interested person may comment on the permit application. The examiner will then issue a proposal for decision recommending issuance or denial of the permit which will include findings of fact and conclusions of law to support his recommendations. The proposal for decision is circulated to all interested parties, and ten days is allowed for parties to file exceptions. [§§1.111-114 of General Rules of Practice and Procedure].

If substantial changes in the project area or in injection pressure or zone are requested or required, the Director will require that notice be given as described above. However, the Director may authorize minor modifications without public notice, provided that the operator consents to the change.

STAFFING

The UIC staff at present consists of fourteen full-time members who are based in the Commissions's Austin office, with field inspectors from the Commission's ten district offices throughout the state being utilized as needed for monitoring, inspection, and reporting. The general responsibilities of the UIC staff may be summarized by position as follows:

Director of Underground Injection Control

Supervises the administration, program development, and regulation of oil and gas waste disposal, underground hydrocarbon storage, and fluid injection wells associated with oil and gas production in Texas. Implements federal and state statutes and regulations to promote reasonable protection of underground water sources and a responsible policy to conserve natural resources. In particular, the Director of UIC:

- (1) develops UIC regulations and procedures which reflect sound engineering and geological practices;
- (2) trains and supervises engineers, geologists, and technicians to perform evaluations of applications for permits for disposal and fluid injection wells;
- (3) issues administrative approvals on uncontested applications for disposal and fluid injection wells in accordance with Commission rules;
- (4) provides investigative support to the Commission in hydrogeology;
- (5) prepares state legislative budget request and administers the UIC operating budget;
- (6) prepares grant applications for available federal funds under the UIC program and administers the grant in accordance with its provisions;
- (7) develops rules, guidelines, Commission orders, and special documents concerning ground water protection;
- (8) develops the regulatory forms and procedures to implement the requirements of the federal Clean Water Act (NPDES permitting) and the Resource Conservation and Recovery Act (hazardous waste program); and
- (9) serves as principal liaison with U.S. Environmental Protection Agency on water quality matters.

Assistant Director

Assists the Director in preparation, submission, and administration of the budget. Reviews the status of the activity's functions and programs and makes reports and suggestions to the Director. Serves as coordinator for the Director in the development of UIC programs. Establishes and oversees cross-training programs for UIC personnel. Serves as Acting Director in the absence of the Director. Directs the

administrative functions of the activity in the Commission organization.

Acting for the Director, supervises UIC administration and personnel. Coordinates administrative processing of disposal and fluid injection well permits. Supervises records control.

Legal Counsel (2)

Draft a state program description for assumption of primary enforcement responsibility of the UIC program under authority of the Safe Drinking Water Act. Coordinate state program plan with staff members of the Oil and Gas Division, other divisions of the Commission, sister agencies of the State of Texas, and EPA, Region VI. Achieve and maintain currency in regulations which implement federal environmental legislation, including the Safe Drinking Water Act, the Clean Water Act, and the Resource Conservation and Recovery Act. Coordinate submission of state program plan for review, public hearing, comment, response to comment, and recommendation for final action by the Commission.

Review major violations of monitoring reports; conduct public hearings to determine causes of violations of Commission rules; and recommend final action and disposition to the Commission. If necessary, assist staff of the Attorney General in prosecuting any cases referred for legal action. Serve as hearings examiner on protested permit applications.

Ensure compliance with on-going public participation requirements. Maintain procedures for the administrative and judicial enforcement of the state underground water resource protection program.

Geologist (2)

Conducts technical review of salt water disposal well and secondary recovery well applications for completeness and accuracy. Performs necessary calculations to verify that proposed injection programs provide adequate protection of fresh water resources. Provides technical assistance to applicants on Commission rules, forms, and procedures. Recommends final action to the Director of UIC on permit applications. Provides investigative support to Commission District Offices on complaints of pollution of ground water. Conducts field investigations when requested by the Commission. Meets with hearings examiners and attends hearings when requested in order to provide technical assistance.

Geologist Assistant

Provides administrative support to the staff Engineer in the review and research of data necessary to the completion of the Secondary Recovery Bulletin. May be required to assist the Geologist in the technical review of permit applications for injection and disposal wells.

Engineer

Performs staff engineering functions including the planning, coordination and administration of projects in the UIC activity. Reviews H-1 Fluid Injection permits in order to evaluate engineering parameters relative to enhanced recovery projects and is responsible for the inspection of files and compilation and evaluation of data received from these reviews.

ADP Programmer Analyst

Designs and maintains a unified system of automated data to meet the requirements of the UIC program. To this end, adapts existing Commission well records into a format recognized by the Data Systems Branch of EPA, Region VI. Establishes permit data-files for disposal and secondary recovery operations. Develops on-going procedures for automatic review of existing permits.

Grants Administrator

Prepares grant applications and required progress reports under UIC program. Assists in preparation of state program description. Performs technical writing and editing of program reports and documents, as assigned.

Secretary to Director

Serves as administrative secretary to Director of UIC. Types various kinds of correspondence and reports. Maintains office files and leave records for UIC personnel.

Permits and Records Control Group (6)

Composed of a reproduction equipment operator, two administrative technicians, a secretary, and a clerk who provide administrative review and processing of disposal and injection well permits, checking for

completeness and accuracy. Assist applicants with forms, procedural requirements, and status of pending applications. Maintain records of applications, permits, related attachments, and correspondence. Prepare, type, and mail permits to operators. Update and microfilm permit records in UIC section and in the Oil and Gas Division.

Field Inspectors (Approx. 200)

Based in the ten District Offices throughout the state, the Commission's Field Operations engineers, geologists, and inspectors are engaged in various field activities, including scheduling and inspection of disposal and injection operations and the investigation of complaints of pollution of fresh water resources.

STAFFING PROJECTIONS

The Commission's state operating budget for FY 82 outlines a projected increase in the Austin UIC and Field Operations staff.

CLASS V WELLS

There is currently only one Class V well in the State of Texas subject to the jurisdiction of the Railroad Commission. This well injects fluid associated with geothermal resource recovery. The Railroad Commission has authority to regulate these types of wells pursuant to Chapter 141 of the Natural Resources Code. The Railroad Commission also has authority over wells used for in situ combustion of coal (Article 5920-11 V.A.C.S.), but there are no wells in the state currently injecting fluids for this purpose.

The Railroad Commission of Texas will continue to inventory, assess, and report to the U.S. Environmental Protection Agency regarding this category of wells pursuant to 40 CFR 146.52. The one well currently operating is authorized pursuant to the rules and statutes administered by the Railroad Commission. Any such Class V wells which begin operating in the State are authorized in accordance with these rules and statutes so as to prevent the contamination of underground sources of drinking water in a manner adversely affecting the public health. If the operation of such well is causing or will cause a violation of primary drinking water standards then an order may be entered as necessary to prevent the violation, or enforcement action may be taken (Chapter 141 and Article 5920-11, §5, §30, and §32).

RAILROAD COMMISSION OF TEXAS

OIL AND GAS DIVISION

S E. (JIM) NUGENT, Chairman ...K WALLACE, Commissioner DY TEMPLE, Commissioner



BOB R. HARRIS, P.E. Director JERRY W. MULLICAN Director of Underground Injection Control

1124 S. IH 35

CAPITOL STATION - P. O. DRAWER 12967

AUSTIN, TEXAS 78711

TO:

Paralegals

FROM:

Glenn Jordan

DATE:

September 15, 1981

SUBJECT: Well-plugging Litigation

In the next two weeks, I will be assigning each of you cases involving well-plugging which should be given a high priority. It is my intent that these cases be litigated to the maximum extent possible, so as to deter future violations of the Commission well-plugging rules and orders. In order to aid you in working these files, I have the following thoughts to offer.

First, I would like to see the attached status sheets filled out for each of the case files when you do your initial review. If these files are worked as intensely as I intend, these outlines of the file will be invaluable in quickly finding appropriate information and will generally help us keep up-to-date.

After completing your review of the docket file, you should also check with Central Records, the proration schedule, the district offices, the Secretary of State's Office, and any other data source available, for further information regarding the subject operator. I think it is very important that you contact the district offices in order to discuss the case in a general fashion. Tell them what we intend to do and ask for details.

At this point, I would ask that you then discuss the case with me. we decide to pursue the case fully, then you should prepare a one or two page summary of the case for use by the Office of Special Counsel and the Attorney General's Office. The summary should provide a general statement of the case including:

- Operator Names
- 2. Cross References to Other Files
- 3. Identification of Wells
- 4. Approximate bates of Abandonment
- 5. Known Pollution Problems
- Repeat Violations 6.
- 7. Solvency of Company
- Statement of Commission Rules and Orders Violated 8.
- List of Attachments 9.

Attachments to the summary should include (1) a listing of relevant parties (names, addresses, and phone numbers of paralegal, district personnel active in case, hearing examiner involved, and registered agent of corporation); (2) a summary of the violations from the day the orders were issued, including a maximum civil penalty calculation and representative minimum civil penalty calculations; and (3) Proposed Injunctive Relief including mandatory injunctive relief ordering the plugging of the wells and prohibitory injunctive relief against future violations of Commission rules and orders. Please discuss with the district offices the specifics of each well plugging, if possible, so that we can clearly specify the manner in which the well should be plugged, as this will make our injunctions more enforceable. A possible form for injunctive relief is attached for your perusal.

As each case progresses, I would ask that you keep the status sheets upto-date and make an effort to inform Field Operations of the progress of the case. None of us, however, should talk to the defendants in these cases without specific instructions to do so from the Attorney General's Office and the Office of Special Counsel.

Glenn Jordan

MGJ:dm

cc: John Camp Myra McDaniel Rex King